

SEQUENCE LISTING

<110> Federspiel, Mark J.

<120> Methods to inhibit infectious agent transmission

<130> 07039-278001

<150> US 09/980,526

<151> 2001-11-15

<150> US 60/135,631

<151> 1999-05-24

<160> 34

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 1

gcgcacgcag atctgatgct taaacaggta gaaattttca ccgatgg

47

<210> 2

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 2

gctgctgctg ctgacttaaact ttcaacttgg tagcctgtat cttcc

45

<210> 3

<211> 659

<212> PRT

<213> Porcine endogenous retrovirus

<400> 3

Met	His	Pro	Thr	Leu	Ser	Arg	Arg	His	Leu	Pro	Ile	Arg	Gly	Gly	Lys
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Pro	Lys	Arg	Leu	Lys	Ile	Pro	Leu	Ser	Phe	Ala	Ser	Ile	Ala	Trp	Phe
			20					25					30		
Leu	Thr	Leu	Ser	Ile	Thr	Pro	Gln	Val	Asn	Gly	Lys	Arg	Leu	Val	Asp
		35					40					45			
Ser	Pro	Asn	Ser	His	Lys	Pro	Leu	Ser	Leu	Thr	Trp	Leu	Leu	Thr	Asp
	50					55					60				
Ser	Gly	Thr	Gly	Ile	Asn	Ile	Asn	Ser	Thr	Gln	Gly	Glu	Ala	Pro	Leu
65				70						75				80	
Gly	Thr	Trp	Trp	Pro	Glu	Leu	Tyr	Val	Cys	Leu	Arg	Ser	Val	Ile	Pro
			85					90					95		
Gly	Leu	Asn	Asp	Gln	Ala	Thr	Pro	Pro	Asp	Val	Leu	Arg	Ala	Tyr	Gly
		100						105					110		
Phe	Tyr	Val	Cys	Pro	Gly	Pro	Pro	Asn	Asn	Glu	Glu	Tyr	Cys	Gly	Asn
		115					120						125		
Pro	Gln	Asp	Phe	Phe	Cys	Lys	Gln	Trp	Ser	Cys	Val	Thr	Ser	Asn	Asp
		130				135						140			
Gly	Asn	Trp	Lys	Trp	Pro	Val	Ser	Gln	Gln	Asp	Arg	Val	Ser	Tyr	Ser
145				150						155				160	
Phe	Val	Asn	Asn	Pro	Thr	Ser	Tyr	Asn	Gln	Phe	Asn	Tyr	Gly	His	Gly
			165					170					175		
Arg	Trp	Lys	Asp	Trp	Gln	Gln	Arg	Val	Gln	Lys	Asp	Val	Arg	Asn	Lys
		180					185						190		
Gln	Ile	Ser	Cys	His	Ser	Leu	Asp	Leu	Asp	Tyr	Leu	Lys	Ile	Ser	Phe

195	200	205
Thr Glu Lys Gly Lys Gln Glu Asn Ile Gln Lys Trp Val Asn Gly Met		
210	215	220
Ser Trp Gly Ile Val Tyr Tyr Arg Gly Ser Gly Arg Lys Lys Gly Ser		
225	230	235
Val Leu Thr Ile Arg Leu Arg Ile Glu Thr Gln Met Glu Pro Pro Val		
	245	250
Ala Ile Gly Pro Asn Lys Gly Leu Ala Glu Gln Gly Pro Pro Ile Gln		255
260	265	270
Glu Gln Arg Pro Ser Pro Asn Pro Ser Asp Tyr Asn Thr Thr Ser Gly		
275	280	285
Ser Val Pro Thr Glu Pro Asn Ile Thr Ile Lys Thr Gly Ala Lys Leu		
290	295	300
Phe Asn Leu Ile Gln Gly Ala Phe Gln Ala Leu Asn Ser Thr Thr Pro		
305	310	315
Glu Ala Thr Ser Ser Cys Trp Leu Cys Leu Ala Ser Gly Pro Pro Tyr		
	325	330
Tyr Glu Gly Met Ala Arg Gly Gly Lys Phe Asn Val Thr Lys Glu His		335
340	345	350
Arg Asp Gln Cys Thr Trp Gly Ser Gln Asn Lys Leu Thr Leu Thr Glu		
355	360	365
Val Ser Gly Lys Gly Thr Cys Ile Gly Met Val Pro Pro Ser His Gln		
370	375	380
His Leu Cys Asn His Thr Glu Ala Phe Asn Arg Thr Ser Glu Ser Gln		
385	390	395
Tyr Leu Val Pro Gly Tyr Asp Arg Trp Trp Ala Cys Asn Thr Gly Leu		
	405	410
Thr Pro Cys Val Ser Thr Leu Val Phe Asn Gln Thr Lys Asp Phe Cys		415
420	425	430
Val Met Val Gln Ile Val Pro Arg Val Tyr Tyr Tyr Pro Glu Lys Ala		
435	440	445
Val Leu Asp Glu Tyr Asp Tyr Arg Tyr Asn Arg Pro Lys Arg Glu Pro		
450	455	460
Ile Ser Leu Thr Leu Ala Val Met Leu Gly Leu Gly Val Ala Ala Gly		
465	470	475
Val Gly Thr Gly Thr Ala Ala Leu Ile Thr Gly Pro Gln Gln Leu Glu		480

	485		490		495
Lys Gly Leu Ser Asn Leu His Arg Ile Val Thr Glu Asn Leu Gln Ala					
	500		505		510
Leu Glu Lys Ser Val Ser Asn Leu Glu Glu Ser Leu Thr Ser Leu Ser					
	515		520		525
Glu Val Val Leu Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Leu Lys					
	530		535		540
Glu Gly Gly Leu Cys Val Ala Leu Lys Glu Glu Cys Cys Phe Tyr Val					
545		550		555	560
Asp His Ser Gly Ala Ile Arg Asp Ser Met Asn Lys Leu Arg Glu Arg					
	565		570		575
Leu Glu Lys Arg Arg Arg Glu Lys Glu Thr Thr Gln Gly Trp Phe Glu					
	580		585		590
Gly Trp Phe Asn Arg Ser Pro Trp Leu Ala Thr Leu Leu Ser Ala Leu					
	595		600		605
Thr Gly Pro Leu Ile Val Leu Leu Leu Leu Leu Thr Val Gly Pro Cys					
	610		615		620
Ile Ile Asn Lys Leu Ile Ala Phe Ile Arg Glu Arg Ile Ser Ala Val					
625		630		635	640
Gln Ile Met Val Leu Arg Gln Gln Tyr Gln Ser Pro Ser Ser Arg Glu					
	645		650		655
Ala Gly Arg					

<210> 4

<211> 660

<212> PRT

<213> Porcine endogenous retrovirus

<400> 4

Met His Pro Thr Leu Ser Arg Arg His Leu Pro Ile Arg Gly Gly Lys			
1	5	10	15
Pro Lys Arg Leu Lys Ile Pro Leu Ser Phe Ala Ser Ile Ala Trp Phe			
20	25	30	
Leu Thr Leu Ser Ile Thr Pro Gln Val Asn Gly Lys Arg Leu Val Asp			
35	40	45	

Ser Pro Asn Ser His Lys Pro Leu Ser Leu Thr Trp Leu Leu Thr Asp
 50 55 60
 Ser Gly Thr Gly Ile Asn Ile Asn Ser Thr Gln Gly Glu Ala Pro Leu
 65 70 75 80
 Gly Thr Trp Trp Pro Glu Leu Tyr Val Cys Leu Arg Ser Val Ile Pro
 85 90 95
 Gly Leu Asn Asp Gln Ala Thr Pro Pro Asp Val Leu Arg Ala Tyr Gly
 100 105 110
 Phe Tyr Val Cys Pro Gly Pro Pro Asn Asn Glu Glu Tyr Cys Gly Asn
 115 120 125
 Pro Gln Asp Phe Phe Cys Lys Gln Trp Ser Cys Ile Thr Ser Asn Asp
 130 135 140
 Gly Asn Trp Lys Trp Pro Val Ser Gln Gln Asp Arg Val Ser Tyr Ser
 145 150 155 160
 Phe Val Asn Asn Pro Thr Ser Tyr Asn Gln Phe Asn Tyr Gly His Gly
 165 170 175
 Arg Trp Lys Asp Trp Gln Gln Arg Val Gln Lys Asp Val Arg Asn Lys
 180 185 190
 Gln Ile Ser Cys His Ser Leu Asp Leu Asp Tyr Leu Lys Ile Ser Phe
 195 200 205
 Thr Glu Lys Gly Lys Gln Glu Asn Ile Gln Lys Trp Val Asn Gly Ile
 210 215 220
 Ser Trp Gly Ile Val Tyr Tyr Gly Gly Ser Gly Arg Lys Lys Gly Ser
 225 230 235 240
 Val Leu Thr Ile Arg Leu Arg Ile Glu Thr Gln Met Glu Pro Pro Val
 245 250 255
 Ala Ile Gly Pro Asn Lys Gly Leu Ala Glu Gln Gly Pro Pro Ile Gln
 260 265 270
 Glu Gln Arg Pro Ser Pro Asn Pro Ser Asp Tyr Asn Thr Thr Ser Gly
 275 280 285
 Ser Val Pro Thr Glu Pro Asn Ile Thr Ile Lys Thr Gly Ala Lys Leu
 290 295 300
 Phe Ser Leu Ile Gln Gly Ala Phe Gln Ala Leu Asn Ser Thr Thr Pro
 305 310 315 320
 Glu Ala Thr Ser Ser Cys Trp Leu Cys Leu Ala Ser Gly Pro Pro Tyr
 325 330 335

Tyr Glu Gly Met Ala Arg Gly Gly Lys Phe Asn Val Thr Lys Glu His
 340 345 350
 Arg Asp Gln Cys Thr Trp Gly Ser Gln Asn Lys Leu Thr Leu Thr Glu
 355 360 365
 Val Ser Gly Lys Gly Thr Cys Ile Gly Met Val Pro Pro Ser His Gln
 370 375 380
 His Leu Cys Asn His Thr Glu Ala Phe Asn Arg Thr Ser Glu Ser Gln
 385 390 395 400
 Tyr Leu Val Pro Gly Tyr Asp Arg Trp Trp Ala Cys Asn Thr Gly Leu
 405 410 415
 Thr Pro Cys Val Ser Thr Leu Val Phe Asn Gln Thr Lys Asp Phe Cys
 420 425 430
 Val Met Val Gln Ile Val Pro Arg Val Tyr Tyr Tyr Pro Glu Lys Ala
 435 440 445
 Val Leu Asp Glu Tyr Asp Tyr Arg Tyr Asn Arg Pro Lys Arg Glu Pro
 450 455 460
 Ile Ser Leu Thr Leu Ala Val Met Leu Gly Leu Gly Val Ala Ala Gly
 465 470 475 480
 Val Gly Thr Gly Thr Ala Ala Leu Ile Thr Gly Pro Gln Gln Leu Glu
 485 490 495
 Lys Gly Leu Ser Asn Leu His Arg Ile Val Thr Glu Asp Leu Gln Ala
 500 505 510
 Leu Glu Lys Ser Val Ser Asn Leu Glu Glu Ser Leu Thr Ser Leu Ser
 515 520 525
 Glu Val Val Leu Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Leu Lys
 530 535 540
 Glu Gly Gly Leu Cys Val Ala Leu Lys Glu Glu Cys Cys Phe Tyr Val
 545 550 555 560
 Asp His Ser Gly Ala Ile Arg Asp Ser Met Ser Lys Leu Arg Glu Arg
 565 570 575
 Leu Glu Arg Arg Arg Arg Glu Arg Glu Ala Asp Gln Gly Trp Phe Glu
 580 585 590
 Gly Trp Phe Asn Arg Ser Pro Trp Met Thr Thr Leu Leu Ser Ala Leu
 595 600 605
 Thr Gly Pro Leu Val Val Leu Leu Leu Leu Leu Thr Val Gly Pro Cys
 610 615 620

Leu Ile Asn Arg Phe Val Ala Phe Val Arg Glu Arg Val Ser Ala Val
 625 630 635 640
 Gln Ile Met Val Leu Arg Gln Gln Tyr Gln Gly Leu Leu Ser Gln Gly
 645 650 655
 Glu Thr Asp Leu
 660

<210> 5

<211> 638

<212> PRT

<213> Porcine endogenous retrovirus

<400> 5

Met His Pro Thr Leu Asn Arg Arg His Leu Pro Ile Arg Gly Gly Lys
 1 5 10 15
 Pro Lys Arg Leu Lys Ile Pro Leu Ser Phe Ala Ser Ile Ala Trp Phe
 20 25 30
 Leu Thr Leu Ser Ile Thr Ser Gln Thr Asn Gly Met Arg Ile Gly Asp
 35 40 45
 Ser Leu Asn Ser His Lys Pro Leu Ser Leu Thr Trp Leu Ile Thr Asp
 50 55 60
 Ser Gly Thr Gly Ile Asn Ile Asn Asn Thr Gln Gly Glu Ala Pro Leu
 65 70 75 80
 Gly Thr Trp Trp Pro Asp Leu Tyr Val Cys Leu Arg Ser Val Ile Pro
 85 90 95
 Ser Leu Thr Ser Pro Pro Asp Ile Leu His Ala His Gly Phe Tyr Val
 100 105 110
 Cys Pro Gly Pro Pro Asn Asn Gly Lys His Cys Gly Asn Pro Arg Asp
 115 120 125
 Phe Phe Cys Lys Gln Trp Asn Cys Val Thr Ser Asn Asp Gly Tyr Trp
 130 135 140
 Lys Trp Pro Thr Ser Gln Gln Asp Arg Val Ser Phe Ser Tyr Val Asn
 145 150 155 160
 Thr Tyr Thr Ser Ser Gly Gln Phe Asn Tyr Leu Thr Trp Ile Arg Thr
 165 170 175
 Gly Ser Pro Lys Cys Ser Pro Ser Asp Leu Asp Tyr Leu Lys Ile Ser

180	185	190
Phe Thr Glu Lys Gly Lys Gln Glu Asn Ile Leu Lys Trp Val Asn Gly		
195	200	205
Met Ser Trp Gly Met Val Tyr Tyr Gly Gly Ser Gly Lys Gln Pro Gly		
210	215	220
Ser Ile Leu Thr Ile Arg Leu Lys Ile Asn Gln Leu Glu Pro Pro Met		
225	230	235
Ala Ile Gly Pro Asn Thr Val Leu Thr Gly Gln Arg Pro Pro Thr Gln		
245	250	255
Gly Pro Gly Pro Ser Ser Asn Ile Thr Ser Gly Ser Asp Pro Thr Glu		
260	265	270
Ser Ser Ser Thr Thr Lys Met Gly Ala Lys Leu Phe Ser Leu Ile Gln		
275	280	285
Gly Ala Phe Gln Ala Leu Asn Ser Thr Thr Pro Glu Ala Thr Ser Ser		
290	295	300
Cys Trp Leu Cys Leu Ala Ser Gly Pro Pro Tyr Tyr Glu Gly Met Ala		
305	310	315
Arg Arg Gly Lys Phe Asn Val Thr Lys Glu His Arg Asp Gln Cys Thr		
325	330	335
Trp Gly Ser Gln Asn Lys Leu Thr Leu Thr Glu Val Ser Gly Lys Gly		
340	345	350
Thr Cys Ile Gly Lys Val Pro Pro Ser His Gln His Leu Cys Asn His		
355	360	365
Thr Glu Ala Phe Asn Gln Thr Ser Glu Ser Gln Tyr Leu Val Pro Gly		
370	375	380
Tyr Asp Arg Trp Trp Ala Cys Asn Thr Gly Leu Thr Pro Cys Val Ser		
385	390	395
Thr Leu Val Phe Asn Gln Thr Lys Asp Phe Cys Ile Met Val Gln Ile		
405	410	415
Val Pro Arg Val Tyr Tyr Tyr Pro Glu Lys Ala Ile Leu Asp Glu Tyr		
420	425	430
Asp Tyr Arg Asn His Arg Gln Lys Arg Glu Pro Ile Ser Leu Thr Leu		
435	440	445
Ala Val Met Leu Gly Leu Gly Val Ala Ala Gly Val Gly Thr Gly Thr		
450	455	460
Ala Ala Leu Val Thr Gly Pro Gln Gln Leu Glu Thr Gly Leu Ser Asn		

465	470	475	480
Leu His Arg Ile Val Thr Glu Asp Leu Gln Ala Leu Glu Lys Ser Val			
	485	490	495
Ser Asn Leu Glu Glu Ser Leu Thr Ser Leu Ser Glu Val Val Leu Gln			
	500	505	510
Asn Arg Arg Gly Leu Asp Leu Leu Phe Leu Lys Glu Gly Gly Leu Cys			
	515	520	525
Val Ala Leu Lys Glu Glu Cys Cys Phe Tyr Val Asp His Ser Gly Ala			
	530	535	540
Ile Arg Asp Ser Met Asn Lys Leu Arg Glu Arg Leu Glu Lys Arg Arg			
545	550	555	560
Arg Glu Lys Glu Thr Thr Gln Gly Trp Phe Glu Gly Trp Phe Asn Arg			
	565	570	575
Ser Leu Trp Leu Ala Thr Leu Leu Ser Ala Leu Thr Gly Pro Leu Ile			
	580	585	590
Val Leu Leu Leu Leu Leu Thr Val Gly Pro Cys Ile Ile Asn Lys Leu			
	595	600	605
Ile Ala Phe Ile Arg Glu Arg Ile Ser Ala Val Gln Ile Met Val Leu			
	610	615	620
Arg Gln Gln Tyr Gln Ser Pro Ser Ser Arg Glu Ala Gly Arg			
625	630	635	

<210> 6

<211> 704

<212> DNA

<213> Porcine endogenous retrovirus

<400> 6

aatgaaagga tgaaaatgca acctgactct cccagaaccc aggaagttaa taagaagctc	60
taaatgccct cgaattccag accctgttcc ctataggttaa aagatcatatc tttttgctgt	120
tttaaaatat gctttctgct ctgtacaaaa ctttgtggaa ggggaaaaac aggcccctga	180
gtatgtgcct ctatgcttga aacttcttga aactgctcct aactgcttgt ttggcttctg	240
taaacctgct tgcataagat aaaaagagga gaagtcaatt gcctaacgga cccagtaag	300
atcgggtgta ccacaaaatg ttgaaacaca tatcttggtg acaacatgtc tccccaccc	360
cgaacatgc gcaaagtgtg aactctaaaa caatttaaat taattggtcc acgaagcgcg	420
ggctctcgaa gttttaaatt gactggtttg tgatatatttg aaatgattgg tttgtaaagc	480

gctgggctttg ttgtgaaccc cataaaagct gtcccgactc cacactcggg gccgcagtc	540
tctacccctg cgtggtgtac gactgtgggc cccagcgcgc ttggaataaa aatcctcttg	600
ctgtttgcat caagaccgct tctcgtgagt gattaagggg agtcgccttt tccgagcctg	660
gaggttcttt ttgctagtct tacatttggg ggctcgtccg ggat	704

<210> 7

<211> 633

<212> DNA

<213> Porcine endogenous retrovirus

<400> 7

aatgaaagga tgaaaataca acctaagcta atgagaagct taaaattggt ctgaattcca	60
gagtttggtc cttataggta aaagattagg ttttttgctg ttttaaaata tgcggaagta	120
aaataggccc tgagtacatg tctctaggca tgaaacttct tgaaactatt tgagataaca	180
agaaaagga gtttctaact gcttgtttag cttctgtaaa actggttgcg ccataaagat	240
gttgaaatgt tgatacacat atcttggtga caacatgtct ccccccaccc gaaacatgcg	300
caaatgtgta actctaaaac aatttaaatt aattgggtcca cgaagcgcgg gctctcgaag	360
ttttaaattg actggtttgt gatattttga aatgattggt ttgtaaagcg cgggctttgt	420
tgtaaccccc ataaaagctg tcccgactcc aactcgggg cgcagtcct ctaccctgc	480
gtggtgtacg actgtgggcc ccagcgcgct tggaataaaa atcctcttgc tgtttgcatc	540
aagaccgctt ctcgtgagtg attaaagggg gtcgcctttt ccgagcctgg aggttctttt	600
tgctggtctt acatttgggg gctcgtccgg gat	633

<210> 8

<211> 20

<212> DNA

<213> Porcine endogenous retrovirus

<400> 8

tggaagatt ggcaacagcg

20

<210> 9

<211> 20

<212> DNA

<213> Porcine endogenous retrovirus

<400> 9
agtgatgtta ggctcagtgg 20

<210> 10
<211> 20
<212> DNA
<213> Porcine endogenous retrovirus

<400> 10
ttctcctttg tcaattccgg 20

<210> 11
<211> 20
<212> DNA
<213> Porcine endogenous retrovirus

<400> 11
tactttatcg ggtcccactg 20

<210> 12
<211> 20
<212> DNA
<213> Porcine endogenous retrovirus

<400> 12
ctgacctgga ttagaactgg 20

<210> 13
<211> 20
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<213> Porcine endogenous retrovirus

<400> 13
atgttagagg atggtcctgg 20

<210> 14

<211> 22

<212> DNA

<213> Porcine endogenous retrovirus

<400> 14

acctcgagac tcggtggaag gg

22

<210> 15

<211> 24

<212> DNA

<213> Porcine endogenous retrovirus

<400> 15

ctgggttctg ggagggttag gttg

24

<210> 16

<211> 24

<212> DNA

<213> Porcine endogenous retrovirus

<400> 16

acgtactgga ggagggtcac ctga

24

<210> 17

<211> 24

<212> DNA

<213> Porcine endogenous retrovirus

<400> 17

gtcccgaacc cttataacct cttg

24

<210> 18

<211> 1980

<212> DNA

<213> Porcine endogenous retrovirus

<400> 18

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aaaatccoct	taagcttcgc	ctccatcgcg	tggttcctta	ctctgtcaat	aactcctcaa	120
gttaatggta	aacgccttgt	ggacagcccg	aactcccata	aacccttata	tctcacctgg	180
ttacttactg	actccggtac	aggtattaat	attaacagca	ctcaagggga	ggctcccttg	240
gggacctggt	ggcctgaatt	atatgtctgc	cttcgatcag	taatccctgg	tctcaatgac	300
caggccacac	ccccgatgt	actccgtgct	tacgggtttt	acgtttgccc	agggtcccca	360
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acttctaata	atgggaattg	gaaatggcca	gtctctcagc	aagacagagt	aagtactctt	480
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gtaaatggta	tgtcttgggg	aatagtgtac	tatagaggct	ctgggagaaa	gaaaggatct	720
gttctgacta	ttgcctcag	aatagaaaact	cagatggaac	ctccggttgc	tataggacca	780
aataagggtt	tggccgaaca	aggacctcca	atccaagaac	agaggccatc	tcctaacccc	840
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ggggcgaaac	tttttaacct	catccaggga	gcttttcaag	ctcttaactc	cacgactcca	960
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gctagaggag	ggaaattcaa	tgtgacaaag	gaacatagag	accaatgtac	atggggatcc	1080
caaaataagc	ttacccttac	tgaggtttct	ggaaaaggca	cctgcatagg	gatggttccc	1140
ccatcccacc	aacacctttg	taaccacact	gaagccttta	atcgaacctc	tgagagtcag	1200
tatctggtac	ctggttatga	cagggtgttg	gcatgtaata	ctggattaac	cccttggttt	1260
tcacaccttg	ttttcaacca	aactaaagac	ttttgcgtta	tggccaaaat	tgtccccggg	1320
gtgtactact	atcccgaaaa	agcagtcctt	gatgaatatg	actatagata	taatcgcca	1380
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aacctacatc	gaattgtaac	ggaaaatctc	caagccctag	aaaaatctgt	cagtaacctg	1560
gaggaatccc	taacctcctt	atctgaagtg	gttctacaga	acagaagggg	gttagatctg	1620
ttattttctaa	aagaaggagg	attatgtgta	gccttaaagg	aggaatgctg	tttttatgtg	1680
gatcattcag	gggccatcag	agactccatg	aacaagctta	gagaaagggt	ggagaagcgt	1740
cgaagggaaa	aggaaactac	tcaagggtgg	tttgagggat	ggttcaacag	gtctccttgg	1800
ttggctaccc	tactttctgc	tttaacagga	ccottaatag	tcctcctcct	gttactcaca	1860
gttgggccat	gtattattaa	caagttaatt	gccttcatta	gagaacgaat	aagtgcagtc	1920
cagatcatgg	tacttagaca	acagtaccaa	agcccgtcta	gcagagaagc	tggccgctag	1980

<210> 19

<211> 7362

<212> DNA

<213> Porcine endogenous retrovirus

<400> 19

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aggatgaaaa tgcaacctga ctctcccaga acccaggaag ttaataagaa gctctaaatg	180
ccctcgaatt ccagaccctg ttccctatag gtaaaagatc atactttttg ctgttttagg	240
gcttgctttc tgctctgtac aaaactttgt ggaaggggaa aaacaggccc ctgagtatgt	300
gcctctatgc ttgaaacttc ttgaaactgc tcctaactgc ttgtttggct tctgtaaacc	360
tgcttgcata agataaaaag aggagaagtc aattgcctaa cggaccccag taagatcggg	420
tgtaccacaa aatgttgaaa cacatatctt ggtgacaaca tgtctcccc accccgaaac	480
atgcgcaa atgtgtaactct aaaacaattt aaattaattg gtccacgaag cgcgggctct	540
cgaagtttta aattgactgg tttgtgatat tttgaaatga ttggtttgta aagcgcgggc	600
tttgttgatga accccataaa agctgtcccg actccacact cggggccgca gtcctctacc	660
cctgcgtggg gtacgaactgt gggccccagc gcgcttgga taaaaatcct cttgctgttt	720
gcatacaagac cgcttctcgt gaggatgtaa ggggagtcgc cttttccgag cctggagggt	780
ctttttgcta gtcttacatt tgggggctcg tccgggatct gtcgcgcca cccctaacac	840
ccgagaaccg acttgagggt aaaaaggatc ctcttttttaa cgtgtatgca tgtaccggcc	900
ggcgtctctg ttctgagtgt ctgttttcag tgggtgcgcgc tttcggtttg cagctgtcct	960
ctcagaccgt aaggactggg ggaactgtgat cagcagacgt gctaggagga tcacaggctg	1020
ccaccctggg ggacgcccc ggaggtgggg agagccagg acgcctggtg gtctccttct	1080
gtcggtcaga ggaccgagtt ctgttggtga agcgaagct tccccctccg cggcgcgtccg	1140
actcttttgc ctgcttggtg aagacgcgga cgggtgcgct gtgtctggat ctgttggttt	1200
ctgttttggtg tgtctttgtc ttgtgcgtcc ttgtctacag ttttaatatg ggacagacgg	1260
tgacgacccc tcttagtttg actctcgacc attggactga agttaaatcc agggctcata	1320
atgtgtcagt tcagggttaag aaggacactt ggcagacttt ctgtgtctct gaatggccga	1380
cattcgatgt tggatggcca tcagagggga cctttaattc tgagattatc ctggctgtta	1440
aagcaattat ttttcagact ggaccgggct ctcaccccaa tcaggagccc tatatcotta	1500
cgtggcaaga tttggcagag gatcctccgc catgggttaa accttggtg aataagccaa	1560
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<212> DNA

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<212> DNA

<213> Porcine endogenous retrovirus

<400> 22

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<211> 7873

<212> DNA

<213> Porcine endogenous retrovirus

<400> 23

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